

IN THE SPECIFICATION:

On page 12, please delete lines 12-19 as follows:

~~Figure 5d shows the same distractor as Figure 5b during the course of the treatment; the bone segment has already been advanced a little distance.~~

~~Figure 5e shows the same distractor as in Figure 5b in the frontal view after the end of the active distraction.~~

~~Figure 5f shows the bony contour and the resulting soft tissue contour when using conventional one-step genioplasty in the top view.~~

On page 13, please delete lines 1-3 as follows:

~~Figure 5g shows the bony contour and the resulting soft tissue contour as it can be obtained with the invented distractor, in the top view.~~

On page 13, please amend lines 4-18 as follows:

Figure 6 ~~shew~~ 5 shows a further embodiment of the distractor where the first distractor module and the second distractor module are directly connected to each other.

Figure 7 6 shows the distractor of Figure 6 as it is arranged on a schematically depicted mandible.

~~Figure 8a shows~~ Figures 7a and 7b show the arrangement as depicted in Figure 7 6, in a view cranial onto the mandible with a distraction in transversal direction.

Figure 9 8 shows a distractor, comparable to the one in Figure 6 5, whereby, however, the second distractor module is in contrast to an U-shaped part built by a beam-like cantilever.

Figure 10 9 shows the arrangement in Figure 9 8 in a side view, where the beam-shaped cantilever is sectioned along its longitudinal axis.

On page 22, lines 16-22, to page 24, last line, please delete the paragraphs as follows:

~~Figure 5a shows an embodiment of the second distractor module taking the form of a hinge, which is inserted in an anatomical arrangement in Figure 5b. Such a hinge can particularly also be used for the advancement of a segment in the area of the chin in the case of a genioplasty. In~~

~~Figure 5a it is visible that the corresponding hinge halves 10, 11 include several sequentially positioned drill holes, furthermore, the lower hinge half 10 has a T-shape such that the short horizontal leg provides sufficient space for three fixation holes. The Figures 5b and 5c show the arrangement in a side view and a front view prior to the start of the distraction. All screws are positioned below the hinge 14 in the lower part of the appliance. The lower screws thereby fixate the hinge 14 to the bone segment (KS), while the upper screw forms the connection to the remaining mandible. The upper screw is connected to the hinge 14 in such a way that it can freely rotate about its own axis but is held in the longitudinal direction. This constellation makes it possible to advance the hinge plate including the attached bone segment (KS) through screwing out of the upper screw out of the threaded hole drilled into the remaining mandible, as shown in Figure 5d. This procedure is again conducted gradually, starting 5-7 days after the osteotomy, by screwing the screw every day a little bit in such manner that the bone segment (KS) is advanced by 0.5-1mm. The upper segment 4 of this second distractor module 2, i.e. the upper hinge half 11, is again connected to the lower segment 2 by means of the hinge 14. Its function is to allow the access~~

~~to the screw for activation by means of a screwdriver. The upper segment respectively the upper hinge half sticks out of the soft tissues passing the mucobuccal fold (UF) into the oral cavity. The function of the hinge is to compensate the relative position as modified by the distraction. This would not be possible by means of a rigid upper segment. For activation, the surgeons pressed the soft tissues down, guided by the upper segment 11, until he gets access to the upper screw for activation. Thereby a light local anaesthesia might be required.~~

~~Figure 5e is a view comparable to that in Figure 5c during a chin distraction. In the top view, depicted in Figure 5f, the bone contours and the resulting soft tissue contour (WT) is evident as it results from a conventional genioplasty. A visible discontinuity 29 results which is also visible from the outside and compromises the aesthetic result as can be seen. In the case of a distraction, on the other hand, as it is depicted in Figure 5g and which is performed using the distraction appliance according to the invention, the periosteum is slowly stretched by the gradual advancement and below the edge of the actual osteotomy surface new bone 30 is formed underneath the periosteum, which reduces or~~

~~avoids the appearance of a visible discontinuity in the soft tissues.~~

On page 25, lines 3-13, please amend the paragraphs to read as follows:

Figure 6 5 is an embodiment of a further distraction appliance as example for the invention.

In this embodiment in Figure 6 5, which is depicted in Figure 7 6 arranged on a schematic mandible, again a first distractor module 1 and a second distractor module 2 are provided. The first distractor module 1 shows the typical U-shaped construction, which encompasses the mandible. In contrast to the embodiments described in the previous figures, the module has the form of an U-shaped cantilever 31, with two free legs and a transverse part 32. This U-shaped cantilever 31 is with its transverse part 32 connected to the mid-segment 3 of the first distractor module 1 by means of a connection 33.

On page 25, lines 14-22, to page 26, lines 1-9 please amend the paragraph to read as follows:

In Figure 6 5 the corresponding distraction element between the end-segment and the mid-segment is marked 5. The distraction is achieved by means of a threaded spindle engaged via screw head 34. Furthermore, in this appliance a connection to the ramus 35 is foreseen on the free end of the end-segment 4. The ramus connection 25 is designed such that it can be bent and adjusted during the operation in order to arrange the distraction element parallel to the sagittal plane. Further more a lateral anchorage 36 is provided, which serves as support for this first appliance part. The lateral anchorage 36 is inserted between the distraction element 5 and the mid-segment 3, parallel to an intermediate part 37. It is held by means of an unlockable clamp 38. The lateral anchorage 36 has an end-segment containing screw holes. The intermediate part 37 with the two clamping parts 38 on its both ends, is flexibly adaptable by means of unlocking clamps 38 in order to be able to adjust it the individual anatomy.

On page 27, lines 6-13, please amend the paragraphs to read as follows:

Figures ~~8a and 8b~~ 7a and 7b show a ventral as well as a transversal distraction.

In the ventral distraction with the appliance as shown in Figures ~~6 and 7~~ 5 and 6, the bone segment is distracted towards ventral by activation of the two distraction elements 5. In Figure 8a a distraction distance of maximal 12 mm is depicted where the distraction distance obtainable is dependent on the size of distraction element 5.

On page 27, lines 14-21 to page 28, lines 1-7, please
amend the paragraph to read as follows:

As can be seen in Figure ~~8b~~ 7b, the form of the mandible can be adapted in transversal direction by means of the two anterior distraction elements 39. As indicated in the figure, a translation by 5 mm should be achievable for each distraction element 39. During this transversal distraction, it should be noted that the mandible is also widened in lateral direction in the area of the temporo-mandibular joints. Therefore this has an impact on these joints which could be negatively affected. In order to avoid this, the screws on the section points respectively clamps 38 have to be loosened in order to allow an angular change in these

connections and to unload the temporo-mandibular joints. After the translation, the screws in the clamps must be re-tightened in order to stabilize the system.

On page 28, lines 8-23 to page 29, lines 1-20, please
amend the paragraph to read as follows:

A further distractor embodiment, comparable to the one in Figure 6 5, is depicted in figures ~~9 and 10~~ 8 and 9. This distractor appliance in Figure 9 8 features, in contrast to the U-shaped cantilever 31 in Figure 6 5, an essentially beam-shaped cantilever 41. Again the distraction elements 5 are inserted between the end-segments 4 and an intermediate part 37. The mid-segment 3 of this appliance is connected to the intermediate part 37 by means of a simple joint connection 42. This joint connection 42 serves the purpose of counterbalancing a correction in the frontal plane. The beam-shaped cantilever 41 takes the form of a sleeve 43 with a beam 44 pivoting inside, as is shown in particular in Figure 10 in the section. In the sleeve 43 furthermore a wire 45 is fixated, which is drawn towards cranial by the beam 44 respectively the screw 46 on the upper end. The lower end of the beam-shaped cantilever 41 is relating to a

bearing and mount 47 for the wire 45, which bearing takes the shape of a part being bent in opposite directions on both ends. While the upper bent end holds the wire 45, the lower end bent towards below serves for the fixation to the bone. If the beam 44 is screwed into the screw 46 and therefore the beam 44 pressed onto the bearing 47, the whole frontal bone segment to which the upper part of the beam-shaped cantilever is fixated, is moved towards cranial. Therefore the wire 45 pulls the base of the frontal bone segment which is solved from the mandible towards anterior. The beam 44 pushes off at the bearing 47 and moves the frontal bone segment towards cranial. Corresponding to the continuous movement of the beam 44 an overlaid translational and rotational movement is generated. By rotating the two distraction elements 5 the frontal bone segment is tilted and moved towards anterior, as it is on the lingual side pulled towards posterior by the periosteum. Therefore a hinge is not provided in this embodiment, since the periosteum and the musculature of the oral floor take over this function.

On page 29, lines 21-23 to page 30, lines 1-8, please
amend the paragraph to read as follows:

In Figure 9 8 one end-segment 4 is relating to a fixation element 48 to fixate this segment 4 on the ramus ascendens. This fixation element 48 is composed from a sleeve, which can be slipped over the beam 4 which forms the end segment. On the end of the sleeve a thread is provided. This fixation element 4 can be screwed into the bone at a desired position by means of a screwdriver which is inserting into the sleeve from the free end and which engages via a slot. Subsequently the end segment is inserted into the sleeve and if desired fixated with a set screw which is not depicted.